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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,817	01/05/2004	Kenichi Takahiro	247239US3	1641

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1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER

PATEL, VISHAL A

ART UNIT	PAPER NUMBER
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3676

DATE MAILED: 01/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/750,817

Applicant(s)

TAKAHIRO ET AL.

Examiner

Vishal Patel

Art Unit

3676

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 4-6 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

1. Figure 7 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

2. Claims 4-6 are objected. Claims are unclear since the preamble reads "a seal structure" not a seal assembly. The claim 4 does not claim further seal structure. If applicant is trying to claim the environment in combination with the metal gasket, the preamble should be a seal assembly.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 1/4 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Boehm (DE 4305974 C1).

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Regarding claim 1: Boehm discloses a combination gasket (figure 1, 2 and 3) formed by fitting a ring-shape metal base elastic structure (2) in at least one trough portion of two trough portions of a ring-shaped metal gasket that has an S-shape longitudinal cross section (3 has two trough to form a S-shape).

Regarding claim 1/4: A seal assembly if formed by fitting the combination gasket set forth in claim 1 in between members being sealed (members being cylinder head and the cylinder).

Regarding claim 5: The at least one ring-shaped metal base elastic structure (base elastic structure that is at 7) is fitted in the trough portion on a lower pressure side of a side being sealed and a side of non-fluid is on the opposite side thereof (base elastic structure that is at 7').

Regarding claim 2: The combination metal gasket is formed by fitting a ring-shaped metal base elastic structure (28') in at least one trough portion of three trough portions (38a, 38b and 38c) of a metal gasket that has a substantially E-shape longitudinal cross section (36 has a substantially E-shape).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2, 2/4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boehm in view of Nicholson (US. 5,433,456).

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Boehm discloses the invention substantially as claimed above but fails to disclose that the S-shape can be configured to an E-shape. Nicholson discloses a gasket having two trough or convolutions to form an S-shape gasket and three trough or convolutions to form an E-shape gasket, each trough or convolutions having a base elastic member (figures 1-3). It would have been obvious to one having ordinary skill in the art at the time the invention was made to configure the gasket of Boehm to be formed into an E-shape gasket having an additional trough as taught by Nicholson, since having a gasket made by two trough or three trough would be considered to be art equivalent.

7. Claim 1/4/6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Boehm.

Boehm discloses the invention substantially as claimed above but fails to disclose that the temperature to be at 200 to 500 degree centigrade. Discovering an optimum range of a result effective variable involves only routine skill in the art. In re Kulling, 895 F.2d 1147, 14 USPQ 2d 1056. Without the showing of some unexpected result. Since applicant has not shown some unexpected result the inclusion of this limitation is considered to be a matter of choice in design. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the temperature be between 200 and 500 degrees as a matter of design choice.

Further evidence is shown that in a petroleum industry that drill string are at more than 200 degrees centigrade at about 10000 feet depth or more (column 5, lines 7 of Schpok et al, US. 4,254,839) and in the internal combustion engine industry the cylinder head is subjected to temperatures of 300 degrees centigrade and above (column 4, lines 1-10 of Jinno, US. 6,565,097).

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8. Claim 2/4/6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Boehm and Nicholson.

Boehm and Nicholson disclose the invention substantially as claimed above but fails to disclose that the temperature to be at 200 to 500 degree centigrade. Discovering an optimum range of a result effective variable involves only routine skill in the art. In re Kulling, 895 F.2d 1147, 14 USPQ 2d 1056. Without the showing of some unexpected result. Since applicant has not shown some unexpected result the inclusion of this limitation is considered to be a matter of choice in design. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the temperature be between 200 and 500 degrees as a matter of design choice.

Further evidence is shown that in a petroleum industry that drill string are at more than 200 degrees centigrade at about 10000 feet depth or more (column 5, lines 7 of Schpok et al, US. 4,254,839) and in the internal combustion engine industry the cylinder head is subjected to temperatures of 300 degrees centigrade and above (column 4, lines 1-10 of Jinno, US. 6,565,097).

***Response to Arguments***

9. Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection.

***Allowable Subject Matter***

10. Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vishal Patel whose telephone number is (703) 308-8495. The examiner can normally be reached on Monday through Friday from 7:30 PM to 4:00 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Shackelford, can be reached on (703) 308-2978.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-2168. Technology Center 3600 Customer Service is available at 703-308-1113. General Customer Service numbers are at 800-786-9199 or 703-308-9000. Fax Customer Service is available at 703-872-9325.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:** 703-872-9326, for formal communications for entry before Final action: or,  
703-872-9327, for formal communications for entry after Final action.

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Hand-delivered responses should be brought to Crystal Park Five, 2451 Crystal Drive, Arlington, Virginia, Seventh Floor (Receptionist suite adjacent to the elevator lobby).

VP

January 10, 2005

A handwritten signature in black ink, appearing to be 'HS' with a large circular flourish on the left and a horizontal line extending to the right.

Heather Shackelford  
Supervisory Patent Examiner  
Tech. Center 3600